Mathematics 2233 – Differential Equations, Section 7
Spring 2015
MWF 11:30 am – 12:20 pm in Classroom Building CLB 301

Instructor:	Oleksandr Tovstolis
Course Coordinator:	Professor Roger Zierau
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Office Hours:	Monday 5:00 pm – 7:00 pm in MLSC (Main Library, 5th floor) TR3,
	Wednesday 4:00 pm – 5:00 pm in MSCS 519 D, and by appointment (Please arrange appointment time by e-mail)
Help Sessions:	Tuesday, Thursday 6:00 pm – 8:00 pm, Room: Classroom Building CLB 108
Course's Website:	*http://www.mathdept.okstate.edu/~atovstolis/diffeqs.htm*
Online Classroom (D2L):	*http://oc.okstate.edu*

Course Description: This course is considered as a first course in Differential Equations. This subject is extremely important not only in Mathematics, but also in all areas of science and engineering related to Mathematics, e.g., Physics, Mechanics, Aerospace Engineering, Biological Sciences, and many others. We will learn basic concepts, which should prepare you to feel comfortably in solving real-world problems, as well as to be prepared to deal with Partial Differential Equations in the future. The course will cover Chapters 1 – 6 of the textbook. The chapters will be covered in the following order: 1, 2, 3, 4, 6, 5.

Textbook:	William E. Boyce, Richard C. DiPrima, Elementary Differential Equations and Boundary Value Problems, 10th Edition, John Wiley & Sons, Inc., 2012

HOMEWORK: You will be assigned _**Written Homework only**_. Since we do not use any electronic systems for developing basic skills (like WebAssign), doing the written homework on a timely basis is crucial for learning the material. This is an intensive course, which means skipping a couple of homework assignments would negatively impact your ability to learn the forthcoming material.

The homework will be in two parts. **Running List of Homework Problems** is considered as a regular homework. The assignments will be added very often and assumed to be solved immediately. Students are expected to complete the assignments in a notebook – neatly written solutions showing all work are expected. Please write the solutions in a form, which could be easily readable by other people, e.g., your classmates. This should also teach you how to write technical stuff in an acceptable form. The notebook will be collected once or twice per semester and graded selectively. You may earn _**50 points**_ for this activity. Moreover, **solving the Running List problems is the best way for exam preparation.**

The other part of the homework will be **Four Problem Sets** assigned and collected during the semester. You may earn _**40 points**_ for this activity. Examples of acceptable work will be provided.

CALCULUS REVIEW: Since our course is heavily related on Calculus (differentiation and integration techniques are a must), the first week will be devoted to reviewing Calculus concepts and methods. On Friday, January 16, 2015, we will have a Short Quiz on Calculus and Algebra skills. Students who solved correctly 8 out of 10 problems will earn _**40 points**_.

D2L: D2L will be used to post homework assignments, practice exams, an occasional solution to homework problem, etc. Students should be sure to regularly check D2L. Students should also be sure to set their email on D2L to an address that they regularly use; certain announcements and reminders will be emailed to students using this address. The D2L Website is https://oc.okstate.edu .

HELP SESSIONS: In addition to the regular classes, I provide Help Sessions. They are **free of charge**. Several interesting examples, strategies of solving standard problems more efficiently, as well as advanced problems and approaches will be discussed in these sessions. You may also ask *any questions* and bring *any problems* to be considered there. Attendance of these sessions is non-mandatory but **highly recommended** for anybody. As students evaluations from my other students show, the help sessions are extremely useful. **The time** is: **Tuesday and Thursday, 6:00 – 8:00 pm. The room is Classroom Building CLB 108.** You may come later and leave earlier; this activity is solely to help you.

EXAMS: There will be four 100 point midterm in-class exams (after completion of Chapters 2, 3, 4, 6), and a 200 point comprehensive final exam.
The Final Exam is on Monday, May 4, 2015, 10:00 am – 11:50 am in CLB 301.
Before each exam, we will have a special review session that should help to prepare for the exam.
A Help Session before each midterm exam will be an extended review session.
The full OSU Academic Calendar could be found at
http://registrar.okstate.edu/Academic-Calendar-Spring-2015, or at
http://registrar.okstate.edu/sites/default/files/Documents/Registrar/enrollmentguidespring2015.pdf   (Spring 2015 Enrollment Guide)

CALCULATORS: Use of calculators will be permitted for doing homework assignments, but **not on exams and quizzes.** Moreover, even for the homework, an answer obtained from the calculator will not be considered as a solution. **I expect well-written detailed solutions to all problems on exams, quizzes, and homework assignments.** The sole purpose of using a calculator is to get numerical values quickly, or to draw a graph of a function. The students could borrow a graphic calculator from the Department of Mathematics' Front Office (MSCS 401). Please note that **all** the exam (and quiz) assignments **could be solved without a calculator**. Furthermore, it happens that a calculator may give you a wrong answer (e.g., because of an input error, or an error in its software). **You should be able to interpret the results obtained.** So, you should know what to expect, and do not rely on calculators (or computers) too much.

ATTENDANCE: Attendance of our classes is mandatory. It is one of the university's requirements. An attendance list will be provided for signing each time. You are responsible for all the material covered in class and all announcements. You must be present for the **entire class period, awake and attentive, without distracting behavior (coming and going from class, talking, wearing headphones, using an electronic device, etc.)** to be counted as present. I expect not only physical presence in class, but also your mental presence. This means, you are expected to do your best to understand the material presented and actively participate in class discussions.

QUESTIONS: All your questions in class and on the help sessions are highly appreciated. Remember that *misunderstanding tends to be collected*. If you do not understand something in class, there are likely to be many other students who do not understand it either. So, help those students out by asking the question! Your questions also help me to guess what was unclear, and therefore requires more explanation, a different approach, or more illustrations, examples, etc.

Sometimes, I ask questions. It is important to keep a live discussion and answer my questions. Even if your answer is wrong, it should teach you. Remember, the purpose of our course is to teach you, to help you in developing knowledge and skills required for solving real-world problems. When people learn something, they often make mistakes, and learn from these mistakes.

COURSE EVALUATION: Course grades will be determined according to the following distribution.

Running List of Homework Problems	50 points
Written Homework Problem Sets	40 points
Short Test on Calculus and Algebra Skills	40 points
Midterm Exams	400 points
Final Exam	200 points
	TOTAL: 730 points

Thus, **total number of points is 730**. In addition, a **special bonus of 30 points** will be granted to students that missed no more than three regular classes. The final grade will be based on the total score:

- "A" – 657+ points
- "B" – 584-656 points
- "C" – 511-583 points
- "D" – 438-510 points
- "F" – 437 or less points.

These scores guarantee you a corresponding grade. Some discretion may be used in deciding 'borderline' cases. It will be based on my subjective judgment of an effort and an understanding of the course's material shown by any particular student. For example, **Final Exam is extremely important for your final score in a borderline case. Please remember that a deep understanding of notions and methods of the course is crucial. You should be able to apply them to solving problems in this particular course, and beyond – to the real world problems.**

MAKE-UP EXAMS: Make-up exams will be given only in extreme circumstances, if documentation for the absence can be provided and is verifiable. Valid reasons (documentation required) for make-up exams include:

- University activities (e.g. field trips, research presentations, athletic teams, etc.)
- Military obligation, jury duty or other mandatory court appearance
- Serious illness or injury in student or immediate family (parent, sibling, spouse, son, daughter)

COURTESY AND ELECTRONICS USAGE: In addition to regular class attendance, common courtesy is expected. Here are a few things to remember:

- Be **on time** and be **attentive**; **remain in the room** the entire time (unless you are ill).
- Show courtesy to those around you by **not talking** to classmates while the instructor is talking.
- **Only one calculator** may be used on quizzes, exams, or other assignments. **No other electronic devices** (cell phones, laptops, tablets) are allowed. Use of more than one calculator, or use of another electronic device will be considered an act of academic dishonesty/misconduct.
- Please **do not use a cell phone or other electronic device during class time**. As an exception, using a tablet solely for making notes is allowed.

Incomplete Grade: The grade of "I" is given to students who satisfactorily completed the majority of the course work and whose work averages "D" or better, but who have been unavoidably prevented from completing the remaining work of the course. The conditions, including appropriate time limits, for the removal of the "I" are indicated on the official class roll by the instructor. A condition that the student must repeat the course in order to remove the "I" is not permitted. The maximum time allowed for a student to remove an "I" is one calendar year.

Academic Dishonesty/Misconduct: Oklahoma State University is committed to the maintenance of the highest standards of integrity and ethical conduct of its members. This level of ethical behavior and integrity will be maintained in this course. Participating in a behavior that violates academic integrity (e.g., unauthorized collaboration, plagiarism, multiple submissions, cheating on examinations, fabricating information, helping another person cheat, unauthorized advance access to examinations, altering or destroying the work of others, and fraudulently altering academic records) will result in your being sanctioned. Violations may subject you to disciplinary action including the following: receiving a failing grade on an assignment, examination or course, receiving a notation of a violation of academic integrity on your transcript, and being suspended from the

University. You have the right to appeal the charge. Contact the Office of Academic Affairs, 101 Whitehurst, 405-744-5627. Go to academicintegrity.okstate.edu for a short video on OSU's academic integrity policy and additional information.

Office of Student Disability Services: (015 University Health Services) - According to the Americans with Disabilities Act, each student with a disability is responsible for notifying the University of his/her disability and requesting accommodations. If you think you have a qualified disability and need special accommodations, you should notify the instructor and request verification of eligibility for accommodations from the Office of Student Disability Services. Please advise the instructor of your disability as soon as possible, and contact Student Disability Services, to ensure timely implementation of appropriate accommodations. Faculty have an obligation to respond when they receive official notice of a disability but are under no obligation to provide retroactive accommodations. To receive services, you must submit appropriate documentation and complete an intake process during which the existence of a qualified disability is verified and reasonable accommodations are identified. Call 405-744-7116 or go to www.okstate.edu/ucs/stdis/.

Syllabus Attachment: You are individually responsible for meeting university deadlines and for following university procedures. The general university syllabus attachment, containing much information of this nature, can be found on the Academic Affairs' web site (http://academicaffairs.okstate.edu and choose Faculty and Staff Resources, then the Syllabus attachment for the appropriate semester).

Standard Operating Procedure: All students must complete a minimum of two hours of work per hour of class outside attending lectures. This work is to consist of reading all sections of the textbook covered in class and performing all assigned homework problems and enough additional problems to make sure that you understand the material. Your outside class work is crucial to success.

A Useful Advice: If you feel unsure, unconfident, or just uncomfortable with some topic(s), please do not ignore it. This means you did not understand some important idea(s). Feel free to come to my office hours, help sessions, or find me at another time to clarify everything. Do it as soon as possible. As my experience shows, there are no subjects too difficult; there is an inappropriate attitude causing problems. Please do not postpone filling the gaps until the pre-finals week.

Important Dates

- **Monday, January 12**   Class work begins
- **Tuesday, January 20**   100% refund, non-restrictive Drop/Add deadline. SIS Web Enrollment coses at midnight
- **Friday, January 23**   Partial refund, restrictive Drop/Add deadline
- **Tuesday, February 24**   Six week grades to be posted
- **Friday, April 10**   Spring Term W Drop/Withdraw deadline
- **Friday, April 24**   Spring Term W/F Withdraw deadline
- **April 27 – May 1**   Pre-Finals Week
- **May 4 – May 8**   Finals Week

*Finally, I would like to mention that our course will be more about **WHY?** than **HOW?** The course should prepare you for real-world application of Mathematics. This means you have to develop skills and knowledge to find correct approaches and to apply formulas consciously. Ideas, methods and approaches really matter. Knowledge of the ideas and ability to apply them in an appropriate way defines a real professional. This is what I am going to help you with. If you need any help, please let me know and I will do my best. Your attitude is crucial for your success. If you have a good attitude, and make an effort, you must succeed.*

I wish you a great success in our course!